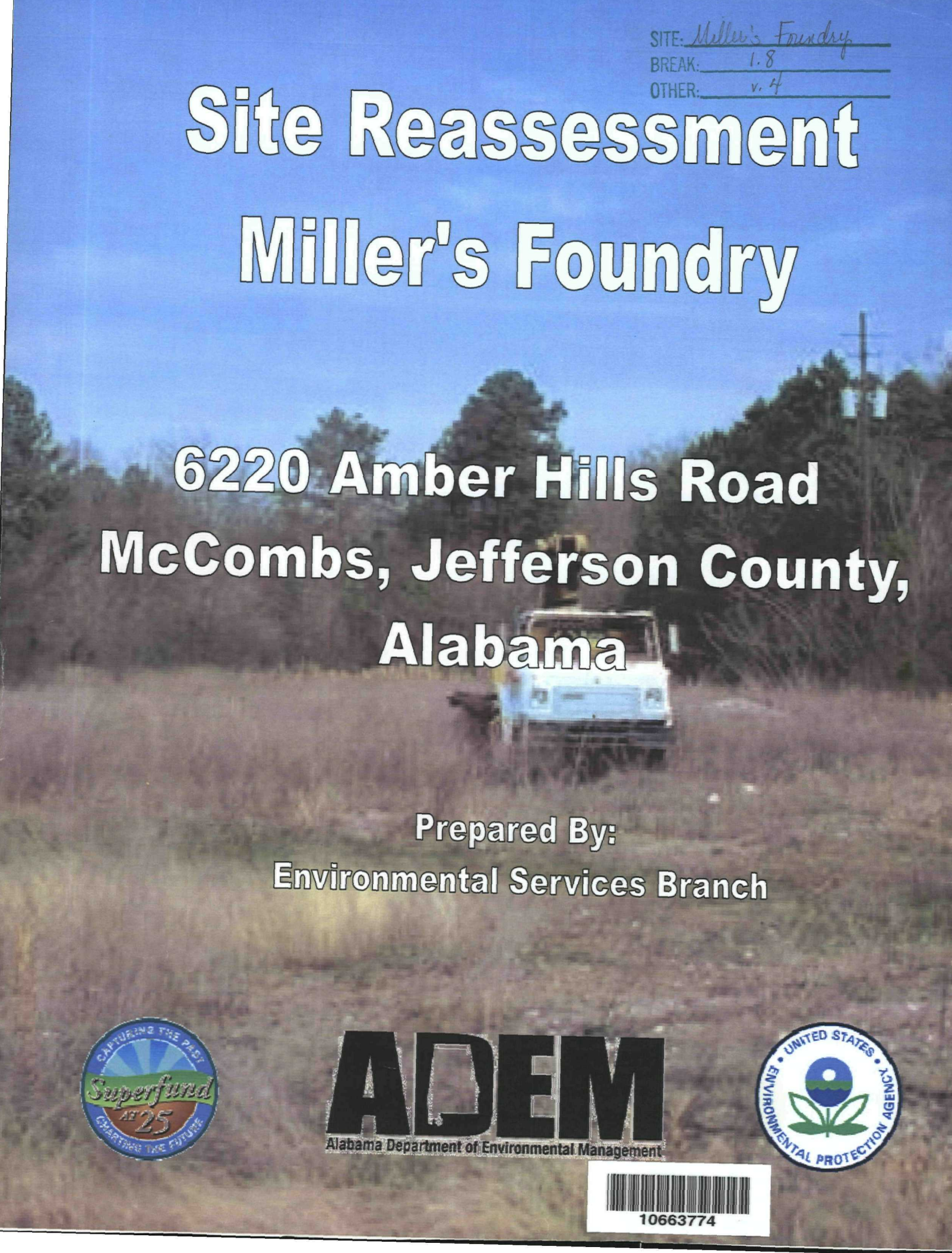
SITE: Miller's Foundry
BREAK: 1.8
OTHER: v. 4

Site Reassessment
Miller's Foundry

6220 Amber Hills Road
McCombs, Jefferson County, Alabama



Prepared By:
Environmental Services Branch

Alabama Department of Environmental Management

NFRAP
9-27-2007
Ralph O. Howard Jr.

Alabama Department of Environmental Management

Site Reassessment
Miller's Foundry Site
Jefferson County, Alabama

1. INTRODUCTION

A site reassessment was performed on the Miller's Foundry property located in McCombs, Jefferson County, Alabama. The scope of the investigation included a site reconnaissance on March 13, 2007 and a review of available file information. The purpose of this investigation was to collect information concerning conditions at the site in order to assess the threat posed human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other action.

2. SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

2.1 Location

No change.

2.2 Site Description

The site was previously operated by Jones Plumbing Systems, Inc. and Jones Manufacturing Company, Inc. It was apparently sold through bankruptcy and appears to have been subdivided. Courthouse records indicate the property at 6220 Amber Hills Road is currently owned by S. W. Smyer, Jr., but Reed's Glass Company currently operates at this address. The empty lot beside Reed's Glass Company is utilized by Castle One which manufactures architectural concrete building stones. Castle One is located behind Reed's Glass Company with the address of 6244 Amber Hills Road.

2.3 Operational History and Waste Characteristics

The site has no past regulatory history but operations began sometime in the 1950s and continued until site was abandoned in 1995. The types of materials used included foundry sands used in the casting and molding process, resins for making molds, paints and solvents, and PCBs (Reference 3). The amount of spillage and disposal is unknown, and the site is now being used for the staging of concrete products for Castle One (Photo 2).

3. WASTE/SOURCE SAMPLING

3.1 Sample Locations

No change.

3.2 Analytical Results

No change.

3.3 Conclusions

No change.

4. GROUND WATER PATHWAY

4.1 Hydrogeology

No change.

4.2 Targets

Several new businesses in the area in the last few years.

4.3 Groundwater Conclusions

No change.

5. SURFACE WATER PATHWAY

5.1 Hydrology

No change.

5.2 Targets.

For Jefferson County, there are 13 endangered, threatened, or candidate for listing species possibly found which could be impacted by this site. The 13 are as follows: (endangered species) Watercress darter *Etheostoma nuchale*; Cahaba shiner *Notropis cahabae*; Vermilion darter *Etheostoma chermocki*; Upland combshell mussel *Epioblasma metastriata*; Triangular kidneyshell mussel *Ptychobranchus greenii*; Plicate rocksnail *Leptoxis plicata*; Leafy prairie clover *Dalea foliosa*; (threatened species) Flattened musk turtle *Sternotherus depressus*; Goldline darter *Percina aurolineata*; Fine-lined pocketbook mussel *Hamiota (=Lampsilis) perovalis*; (candidate for listing species) Rush darter *Etheostoma phytophilum*; Black Warrior waterdog *Necturus alabamensis* (Reference 4).

5.3 Surface Water Conclusions

No change.

6. SOIL EXPOSURE AND AIR PATHWAYS

Population data for the 4-mile target distance limit have changed from previous reports to the following (Reference 2):

Superfund Reassessment Miller's Foundry (AL0001923358) McCombs, Jefferson County, Alabama Demographic Data Four Mile Radius	
Distance From Site (miles)	Population
0.00-0.25	63
0.25-0.50	184
0.50-1.0	708
1.0-2.0	2708
2.0-3.0	5457
3.0-4.0	10672
Total Population	19792

The site is accessible to the public and is currently being used as a staging site for Castle One's concrete products. A discharge appears to be percolating from a gravel road on the northeast side of the property (Photo 1). An area around a faucet appears to have been excavated for an unknown purpose on the east side of the property (Photo 3).

7. SUMMARY AND CONCLUSIONS

No further action is recommended under the Federal Superfund program. There are not sufficient targets for the site to proceed further in the CERCLA program.

REFERENCES

1. Microsoft® Streets & Trips 2004 (12.00.07.1200), Copyright © 2004 Microsoft Corp. and/or its suppliers, all rights reserved.

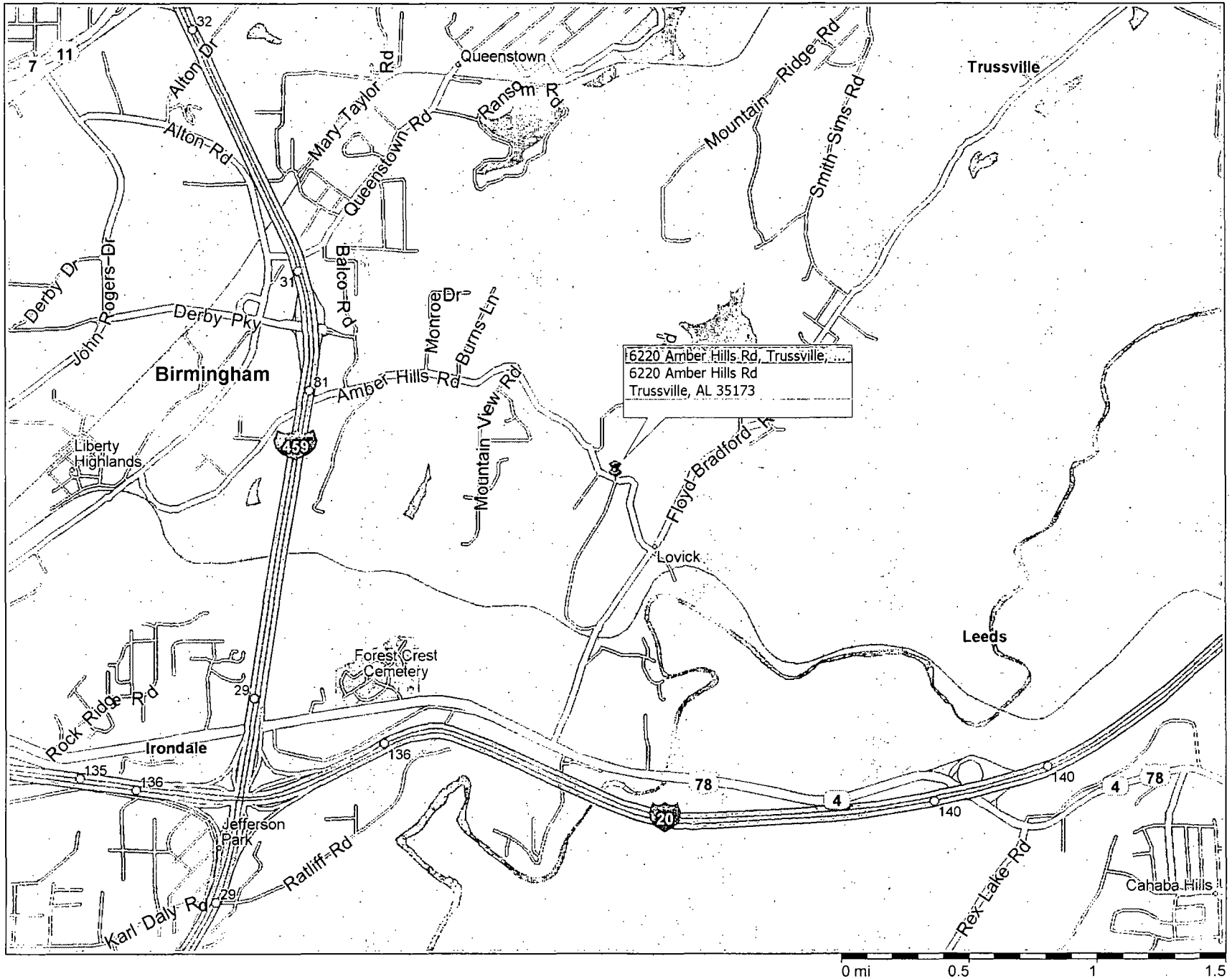
2. Target Map Information, USGS 7.5 Minute Series Topographic Quadrangle Maps of Alabama: Birmingham North, Birmingham South, Cahaba Heights, Irondale, Leeds, and Vandiver. Scale 1:24,000.

3. Preliminary Assessment (PA) Report, EPA ID# AL0001923358, August 15, 1997

4. U.S. Fish and Wildlife Service, Daphne Ecological Services Field Office, "Alabama Federally Listed Species by County," http://southeast.fws.gov/es/county%20lists.htm, September 16, 2006.

5. Blagg, Beverly, ADEM Photodocumentation of April 2007 site visit to Miller's Foundry Site.

Lovick, Alabama, United States



1400 Coliseum Blvd, Montgomery, AL 36110 to 6220 Amber Hills Rd, Trussville, AL...

99.9 miles; 1 hour, 41 minutes

9:00 AM	0.0 mi	1 Depart 1400 Coliseum Blvd, Montgomery, AL 36110 on Coliseum Blvd (North) for 0.5 mi
9:01 AM	0.5 mi	Turn LEFT (West) onto Coliseum Pky for 0.5 mi
9:02 AM	1.0 mi	Turn LEFT (West) onto SR-152 [North Blvd] for 3.8 mi
9:08 AM	4.8 mi	Take Ramp (RIGHT) onto I-65 [SR-6] for 77.2 mi towards I-65 / Birmingham
10:23 AM	82.0 mi	At exit 250, turn RIGHT onto Ramp for 0.2 mi towards I-459 / Atlanta / Gadsden / Tuscaloosa
10:23 AM	82.3 mi	Take Ramp (RIGHT) onto I-459 for 15.7 mi towards I-459 / US-280 / Atlanta / Gadsden
10:36 AM	97.9 mi	At exit 31, turn RIGHT onto Ramp for 0.2 mi towards Derby Parkway
10:37 AM	98.1 mi	Keep RIGHT to stay on Ramp for 65 yds
10:37 AM	98.2 mi	Bear RIGHT (East) onto Derby Pky for 0.1 mi
10:37 AM	98.3 mi	Turn RIGHT to stay on Derby Pky for 0.2 mi
10:37 AM	98.5 mi	Turn LEFT (East) onto Amber Hills Rd for 1.4 mi
10:41 AM	99.9 mi	2 Arrive 6220 Amber Hills Rd, Trussville, AL 35173 [6220 Amber Hills Rd, Trussville, AL 35173]

PRELIMINARY ASSESSMENT

FOR

MILLER's FOUNDRY
IRONDALE, JEFFERSON COUNTY

EPA ID NO.: AL0001923358
CERCLE REFERENCE NO.: 6696

Date: August 15 , 1997

Prepared by: Jerry Cheatwood
ADEM/Land/Site Assessment Unit

Site Name: Miller's Foundry
McCombs, Jefferson County, Alabama
Reference Number 6696

1. INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) and a cooperative agreement between the U.S. Environmental Protection Agency and the Alabama Department of Environmental Management (ADEM), a Preliminary Assessment (PA) was conducted at the Miller's Foundry site, McCombs, Jefferson County, Alabama. The purpose of this investigation was to collect information concerning conditions at the Miller's Foundry site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other action. The scope of the investigation included a review of available file information, a comprehensive target survey, and an onsite reconnaissance.

2. SITE DESCRIPTION, OPERATIONAL HISTORY AND WASTE CHARACTERISTICS

2.1 Location

Miller's Foundry is located in the small community of McCombs in Jefferson County, Alabama. The address of this former operation is 6220 Amber Hills Road, Birmingham, AL 35173 (Attachment A). The geographic coordinates for this site as collected with a GPS are 33.563681N/86.616563W. The directions to the site are as follows: turn north at the caution light on Highway 78 between Leeds and Irondale onto Floyd Bradford Road, proceed 0.5 miles and turn left onto Jones Industrial Drive which will end 0.8 miles ahead at Amber Hills Road, the foundry site is directly ahead across the street (Attachment B). The climate in the Irondale area is temperate. Mean annual rainfall in Birmingham, approximately 7 miles west of McCombs, is 53.7 inches. The average daily high temperature in the area is approximately 79° F. The average daily low is approximately 45° F (Attachment C).

2.2 Site Description

The area of the site is approximately 2 acres with a minimal slope due to grading of the property; however, the site has a steep slope on the western portion of the property which is fill material with visible wastes and drums in the face of this area. There are many areas of vegetation onsite which do appear to be unnaturally stressed (Attachments E,F). There are no structures remaining on the property. The property formerly housed the foundry building of 35,789 square feet which was sold for scrap by Southtrust Bank and dismantled by Western Steel Inc. The property is totally unsecured.

2.3 Operational History and Waste Characteristics

The site was operated for the past several years by Jones Plumbing Systems, Inc. and Jones Manufacturing Company, Inc. The site is currently owned by Southtrust Bank, due to bankruptcy, and is for sale; however, the Deed is still held by representatives of Jones Plumbing by Mr. Lynn P. Harrison III with Curtis, Mallet-Provost, Colt, and Mosle at 101 Park Avenue New York, New York 10178-0061 phone (212) 696-6199 (Attachment G). A former party in site operations is "Butch" Jones who operates Jones Stephens Company in Moody, Alabama phone (800) 35-Jones.

Portions of the site were also built on and contamination has spread to the abandoned railroad grade right-of-way for the old Central of Georgia Railroad (Attachment F). Site operations began sometime in the 1950's where site operations have existed until the site was abandoned in December of 1995. The site has no past regulatory history. The types of materials handled are: foundry sands used in the casting and molding process, resins for making molds, paints used for the finished castings, solvents for cleaning and paint thinning, PCBs which are suspected in the area of the former power plant which is now dismantled – this area now contains only one transformer (others were sold by Southtrust) but still has approximately 120 large capacitors, and asbestos is also located at this site. The known disposal practice was to place waste around the property and to have wastes and foundry sands removed by a local resident by dump truck to be placed at various locations in the surrounding area. The amount of spillage and disposal is unknown. When questioning the person who removed the wastes he stated he had been removing wastes from the site for over 40 years and that he could not estimate the total number of loads removed.

The type sources at the site then are approximately 73 drums of unknown contents onsite, approximately 30 drums which can be seen in the face of the fill area – suspected many more buried, 4 dip vats of paint waste estimated to be 1,200 gallons, several piles of various materials totaling approximately 4,950 square feet, the fill area of approximately ½ acre, a naturally occurring surface impoundment of 6,000 square feet – 30x200 feet, and 3 acres of associated contaminated soil .

3. Ground Water Pathway

3.1 Hydrogeologic Setting

The site is located in east Jefferson County in what is considered to be the Cahaba Ridge district of the Alabama Valley and Ridge physiographic section. The site has an estimated elevation of 620 feet above mean sea level. The Cahaba Ridge district consists of ridges underlain by gently folded sandstone and conglomerate beds, separated by valleys underlain by shale.

Soils at the site are classified as Palmerdale complex, steep with slopes ranging from 15 to 60 percent. This complex consists of steep, somewhat excessively drained Palmerdale soils and other soils on surface mining spoil piles. Typically, these soils are more than 60 inches thick and are dark gray very shaly silt loam.

The available water capacity for Palmerdale soils is low. These soils are not well suited to cultivated crops, pasture, and hay because of steep slopes, fragments on the surface, and the droughty nature of the soils. Present use of these soils is oriented primarily towards reclamation and establishment of trees.

Geologic units that crop out in this part of Jefferson County range in age from Cambrian to Pennsylvanian and are very complex in structure. Rocks in the vicinity of the site consist of the Pottsville Formation and are Pennsylvanian in age.

The Pottsville Formation consists of alternating beds of shale and sandstone with numerous coal seams and associated beds of unerclay. In parts of Jefferson County the Pottsville is over 5,100 feet thick, but in part of the county it is of undetermined thickness due to faulting and folding.

The Pottsville is characterized by steep and rugged valleys and ridges. The massive sandstone units are resistant to weathering and are often topographically higher than the shales that are more susceptible to erosion. The extent of weathering in the Pottsville primarily depends on the lithology of the rock unit. The shale may weather to depths of up to 20 feet and the sandstone to depths of up to 15 feet. The regolith derived from weathering of the shale generally is a silty loam containing shale fragments and has a slow infiltration rate.

Most of the permeability of the sandstone unit is the result of fractures in the bedrock. Some sandstone units of the Pottsville may be permeable, but the shale units are relatively impermeable. Groundwater generally can be obtained by drilling to depths of less than 200 feet, but the Pottsville aquifer generally yields less than 10 gallons per minute to wells.

The major groundwater aquifer in the area is the Pottsville Aquifer. Groundwater in the Pottsville Formation exists in the sandstone and in residual soils and in openings along joints, faults, and bedding planes. Except where fractured, the coal, shale and siltstone are relatively impermeable and usually do not yield significant quantities of water to wells. The water table ranges from 10 to 50 feet below the surface, and quantities of water suitable for domestic needs generally occur at depths of less than 200 feet. Yields to most wells in the area are less than 10 gallons per minute.

The source of recharge to the aquifers in the area is through rainfall. Average annual rainfall in the area is about 53 inches per year. A large part of this rainfall is lost either by direct runoff to streams immediately after a rain or by evapotranspiration to the atmosphere. A relatively small part of the total rainfall infiltrates to the water table to recharge the aquifers.

The permeability for the area is 1.4 x 10-3 to 4.2x10-3 and depth to shallowest aquifer is approximately 10 to 50 feet (Attachment C).

3.2 Ground Water Targets

There are 2 municipal wells within the 4-mile target distance. These two wells are owned by Southern Railway and there use is unknown. These wells lie close to the 4-mile radius to the west. There is also one spring used for public water supply approximately 4 miles east of the site. This spring is used by the City of Leeds and is pumped at a rate of approximately 750,000 gallons per day and serves 12,597 persons (Attachment C). There appear to be few private wells located within a 4 mile radius of the site; however, there is one residence within ¼ mile of the site to the northwest which does utilize groundwater for drinking and serves 6 persons (Attachment D). The remainder of the area is served by surface water from Lake Purdy.

3.3 Ground Water Conclusions

A release of hazardous materials to groundwater from this site is suspected due to the geology in the area in question being possibly unnaturally karst due to mining activities in the area and that contaminants released from the site are in liquid form and poorly managed. Upgradient monitoring wells are in place at an adjacent facility to the east – assumed to be on the property line. There are no monitoring wells on the Miller's Foundry site.

4. SURFACE WATER PATHWAY

4.1 Hydrologic Setting

The overland drainage from the site is to the northwest, west, southwest, and east. Drainage from the northwest enters into an intermittent stream at the back of the property. Western drainage has accumulated in a low area that was formerly a borrow ditch for an abandoned railroad which has now been removed. This area has formed a tar-like lagoon of waste material. Southwestern drainage is to a municipal drain. Paint wastes have been observed entering this drain and it is uncertain where this drain terminates. Eastern drainage is to a small impounded area which has cattails growing in it. The distance from the site to perennial surface water – Lake George – is approximately 1/3 mile, then 1.5 miles in an unnamed tributary to the Cahaba River (Attachment D). The Cahaba River has a flow of 7-day 2-year 8.8 cfs and 7-day 10-year 4.5 cfs (Reference 1). The site lies outside of the 500 year floodplain.

4.2 Surface Water Targets

There are no drinking water intakes located within the 15-mile target distance limit. The Cahaba River is classified as Outstanding Alabama Water, for fishing and wildlife, and for water-contact sports (Reference 2). There are few wetlands occurring within 15 downstream miles along the banks of the Cahaba River. Federally Endangered species which are known to inhabit the Cahaba River – 2 miles downstream from the site are the: Cahaba Shiner, Southern Clubshell, Southern Combshell, Upland Combshell, Triangular Kidneyshell, and the Coosa Moccasinshell. Federally Threatened species known to inhabit this area are the: Goldline Darter and Fine-Lined Pocketbook (Reference 3). There do not appear to be any overland sensitive environments for this area

4.3 Surface Water Conclusions

A release to surface water is suspected as the wastes were deposited as a liquid, and there is a well defined pathway leading to perennial surface water.

5. SOIL EXPOSURE AND AIR PATHWAYS

5.1 Physical Conditions

There are areas of unnaturally stressed vegetation at the site and numerous areas of stained soil apparent both on and off the property. The site is readily accessible to the public and persons from adjacent facilities have been seen using the area for exercise walking, and trespassers have been noted onsite as well.

5.2 Soil and Air Targets

There are no workers or residents onsite. The nearest residence is located less than 0.1 mile to the northwest. The nearest school is Roebuck Plaza School located more than 3 miles to the northwest (Attachment D). Wetlands are not anticipated to exist within the four-mile target distance limit. There are not expected to be any Federally Endangered Species for the soil or air pathway.

- Population Profile (collected from topographic maps and LandView)

Radii	Households	Residents*
onsite	0	0
0-1/4	5	13
1/4-1/2	38	99
1/2-1	95	247
1-2	1,317	3,424
2-3	904	2,350
3-4	4,000	10,400
total:	6,359	16,533

* 2.6 residents/household for Jefferson County (Attachment I)

5.3 Soil Exposure and Air Pathway Conclusions

There is a direct exposure threat for soil at the site for persons both on and off the property. There is also a release to air as odors have been currently reported on and in the vicinity of the site.

6. SUMMARY AND CONCLUSIONS

A high priority for further study is recommended at this site as it is suspected to be impacting all available pathways of groundwater, surface water, soil, and air.

C - Fuzzy pigtoe *Pleurobema strodeanum*
C - Choctaw bean *Villosa choctawensis*

Houston

T - Bald eagle *Haliaeetus leucocephalus*
T – Gulf sturgeon *Acipenser oxyrinchus desotoi*
T - Flatwoods salamander *Ambystoma cingulatum* (P)
E – Shiny-rayed pocketbook *Hamiota (=Lampsilis) subangulata*
E - Gulf moccasinshell *Medionidus penicillatus*
E - Oval pigtoe *Pleurobema pyriforme*
C - Southern sandshell *Lampsilis australis*
C - Choctaw bean *Villosa Choctawensis*

Jackson

E - Gray bat *Myotis grisescens*
E - Indiana bat *Myotis sodalis*
T - Bald eagle *Haliaeetus leucocephalus*
E - Palezone shiner *Notropis albizonatus*
E - Anthony's riversnail *Athearnia anthonyi*
E - Shiny pigtoe pearly mussel *Fusconaia cor (edgariana)*
E - Pink mucket pearly mussel *Lampsilis abrupta*
E - Alabama lamp pearly mussel *Lampsilis virescens*
E - Pale lilliput pearly mussel *Toxolasma cylindrellus*
E - Fine-rayed pigtoe mussel *Fusconaia cuneolus*
E - Hine's emerald dragonfly *Somatochlora hineana* (P)
E - Green pitcher plant Sarracenia oreophila
E - Morefield's leather-flower *Clematis morefieldii*
T - American hart's-tongue fern *Phyllitis scolopendrium var.americana*
T - Price's potato-bean *Apios priceana*
C - Slabside pearlymussel *Lexingtonia dolabelloides*
C - White fringeless orchid *Platanthera integrilabia*

Jefferson

T - Flattened musk turtle *Sternotherus depressus*
E - Watercress darter *Etheostoma nuchale*
E - Cahaba shiner *Notropis cahabae*
T - Goldline darter *Percina aurolineata*
C - Rush darter *Etheostoma phytophilum*
E - Vermilion darter *Etheostoma chermocki*
E - Upland combshell mussel *Epioblasma metastriata*
T - Fine-lined pocketbook mussel *Hamiota (=Lampsilis) altilis*
E - Triangular kidneyshell mussel *Ptychobranchus greenii*
T - Orange-nacre mucket mussel *Hamiota (=Lampsilis) perovalis*
E - Plicate rocksnail *Leptoxis plicata*
E - Leafy prairie clover *Dalea foliosa*
C - Black Warrior waterdog *Necturus alabamensis*

Photo 1
Gravel Road on northeast side of property.

Photo 2
Staging area for Castle One.

Photo 3
Excavated area around faucet.

Photo 4
Castle One Building.

Photo 5
North view of property.

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10463774 Site ID: ALD001923358

Site Name: Miller's Laundry

Nature of Material:

Map:	☑	Computer Disks:	☐
Photos:	☐	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): _____

Amount of material: _____

* Please contact the appropriate Records Center to view the material *

****** CONFIDENTIAL ******
******PRE-DECISIONAL DOCUMENT ******
****** SUMMARY SCORESHEET ******
****** FOR COMPUTING PROJECTED HRS SCORE ******

****** Do Not Cite or Quote ******

Site Name: Miller Foundry

Region: 4

City, County, State: McCombs, Jefferson AL

Evaluator: B. Blagg

EPA ID#: AL0001923358

Date: 9/25/2007

Lat/Long:

T/R/S:

Congressional District:

This Scoresheet is for: Other

Scenario Name: Reassessment

Description:

	S pathway	S^2 pathway
Ground Water Migration Pathway Score (S_{gw})	0.79	0.6241
Surface Water Migration Pathway Score (S_{sw})	33.6	1128.96
Soil Exposure Pathway Score (S_s)	0.67	0.4489
Air Migration Score (S_a)	0	0
$S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$		1130.033
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		282.50825
$/ (S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		16.81

υ Pathways not assigned a score (explain):

TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Aquifer Evaluated:			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	0	
2. Potential to Release:			
2a. Containment	10	10	
2b. Net Precipitation	10	6	
2c. Depth to Aquifer	5	5	
2d. Travel Time	35	15	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	260	
3. Likelihood of Release (higher of lines 1 and 2e)	550		260
Waste Characteristics:			
4. Toxicity/Mobility	(a)	10000	
5. Hazardous Waste Quantity	(a)	1	
6. Waste Characteristics	100		10
Targets:			
7. Nearest Well	(b)	2	
8. Population:			
8a. Level I Concentrations	(b)	0	
8b. Level II Concentrations	(b)	0	
8c. Potential Contamination	(b)	13.1	
8d. Population (lines 8a + 8b + 8c)	(b)	13.1	
9. Resources	5	5	
10. Wellhead Protection Area	20	5	
11. Targets (lines 7 + 8d + 9 + 10)	(b)		25.1
Ground Water Migration Score for an Aquifer:			
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000][c]	100		0.79103030303 0303
Ground Water Migration Pathway Score:			
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100		0.79103030303 0303

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Watershed Evaluated:			
Drinking Water Threat			
Likelihood of Release:			
1. Observed Release	550	550	
2. Potential to Release by Overland Flow:			
2a. Containment	10	10	
2b. Runoff	10	1	
2c. Distance to Surface Water	5	16	
2d. Potential to Release by Overland Flow [lines 2a(2b + 2c)]	35	170	
3.Potential to Release by Flood:			
3a. Containment (Flood)	10	10	
3b. Flood Frequency	50	0	
3c. Potential to Release by Flood (lines 3a x 3b)	500	0	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	170	
5. Likelihood of Release (higher of lines 1 and 4)	550		550
Waste Characteristics:			
6. Toxicity/Persistence	(a)	10000	
7. Hazardous Waste Quantity	(a)	1	
8. Waste Characteristics	100		10
Targets:			
9. Nearest Intake	50	0	
10. Population:			
10a. Level I Concentrations	(b)	0	
10b. Level II Concentrations	(b)	0	
10c. Potential Contamination	(b)	0	
10d. Population (lines 10a + 10b + 10c)	(b)	0	
11. Resources	5	5	
12. Targets (lines 9 + 10d + 11)	(b)		5
Drinking Water Threat Score:			
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100		0.33
Human Food Chain Threat			
Likelihood of Release:			
14. Likelihood of Release (same value as line 5)	550		550
Waste Characteristics:			
15. Toxicity/Persistence/Bioaccumulation	(a)	50000	
16. Hazardous Waste Quantity	(a)	1	
17. Waste Characteristics	1000		10
Targets:			
18. Food Chain Individual	50	20	
19. Population			
19a. Level I Concentration	(b)	0	
19b. Level II Concentration	(b)	0	
19c. Potential Human Food Chain Contamination	(b)	0.003	
19d. Population (lines 19a + 19b + 19c)	(b)	0	
20. Targets (lines 18 + 19d)	(b)		20
Human Food Chain Threat Score:			
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100		1.33
Environmental Threat			
Likelihood of Release:			
22. Likelihood of Release (same value as line 5)	550		550
Waste Characteristics:			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	50000000	
24. Hazardous Waste Quantity	(a)	1	
25. Waste Characteristics	1000		56

Targets:			
26. Sensitive Environments			
26a. Level I Concentrations	(b)	0	
26b. Level II Concentrations	(b)	0	
26c. Potential Contamination	(b)	82.5	
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	82.5	
27. Targets (value from line 26d)	(b)		82.5
Environmental Threat Score:			
28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60		30.8
Surface Water Overland/Flood Migration Component Score for a Watershed			
29. Watershed Score[c] (lines 13+21+28, subject to a max of 100}	100		32.46
Surface Water Overland/Flood Migration Component Score			
30. Component Score (S_{sw})[c] (highest score from line 29 for all watersheds evaluated)	100		32.46

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-25 --GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Aquifer Evaluated:			
Drinking Water Threat			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	550	
2. Potential to Release:			
2a. Containment	10	10	
2b. Net Precipitation	10	6	
2c. Depth to Aquifer	5	3	
2d. Travel Time	35	15	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	240	
3. Likelihood of Release (higher of lines 1 and 2e)	550		550
Waste Characteristics:			
4. Toxicity/Mobility	(a)	10000	
5. Hazardous Waste Quantity	(a)	1	
6. Waste Characteristics	100		10
Targets:			
7. Nearest Well	(b)	0	
8. Population:			
8a. Level I Concentrations	(b)	0	
8b. Level II Concentrations	(b)	0	
8c. Potential Contamination	(b)	0	
8d. Population (lines 8a + 8b + 8c)	(b)	0	
9. Resources	5	5	
10. Targets (lines 7 + 8d + 9)	(b)	5	
Drinking Water Threat Score:			
11. Drinking Water Threat Score ([lines 3 x 6 x 10]/82,500, subject to max of 100)	100		0.33
Human Food Chain Threat			
Likelihood of Release:			
12. Likelihood of Release (same value as line 3)	550		550
Waste Characteristics:			
13. Toxicity/Mobility/Persistence/Bioaccumulation	(a)	500000	
14. Hazardous Waste Quantity	(a)	1	
15. Waste Characteristics	1000		18
Targets:			
16. Food Chain Individual	50		
17. Population			
17a. Level I Concentration	(b)	0	
17b. Level II Concentration	(b)	0	
17c. Potential Human Food Chain Contamination	(b)	0.003	
17d. Population (lines 17a + 17b + 17c)	(b)	0	
18. Targets (lines 16 + 17d)	(b)		20
Human Food Chain Threat Score:			
19. Human Food Chain Threat Score [(lines 12x15x18)/82,500,suject to max of 100]	100		2.4
Environmental Threat			
Likelihood of Release:			
20. Likelihood of Release (same value as line 3)	550		550
Waste Characteristics:			
21. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	50000000	
22. Hazardous Waste Quantity	(a)	1	
23. Waste Characteristics	1000		56
Targets:			
24. Sensitive Environments			
24a. Level I Concentrations	(b)	0	
24b. Level II Concentrations	(b)	0	
24c. Potential Contamination	(b)	82.5	

24d. Sensitive Environments (lines 24a + 24b + 24c)	(b)	82.5	
25. Targets (value from line 24d)	(b)		82.5
Environmental Threat Score:			
26. Environmental Threat Score [(lines 20x23x25)/82,500 subject to a max of 60]	60		30.87
Ground Water to Surface Water Migration Component Score for a Watershed			
27. Watershed Score[c] (lines 11 + 19 + 28, subject to a max of 100)	100		33.6
28. Component Score (S_{gs})[c] (highest score from line 27 for all watersheds evaluated, subject to a max of 100)	100		33.6

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Exposure:			
1. Likelihood of Exposure	550		550
Waste Characteristics:			
2. Toxicity	(a)	10000	
3. Hazardous Waste Quantity	(a)	1	
4. Waste Characteristics	100		10
Targets:			
5. Resident Individual	50	0	
6. Resident Population:			
6a. Level I Concentrations	(b)	0	
6b. Level II Concentrations	(b)		
6c. Population (lines 6a + 6b)	(b)	0	
7. Workers	15	5	
8. Resources	5	5	
9. Terrestrial Sensitive Environments	(c)	0	
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)		10
Resident Population Threat Score			
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)		55000
Nearby Population Threat			
Likelihood of Exposure:			
12. Attractiveness/Accessibility	100	50	
13. Area of Contamination	100	20	
14. Likelihood of Exposure	500		25
Waste Characteristics:			
15. Toxicity	(a)	10000	
16. Hazardous Waste Quantity	(a)	1	
17. Waste Characteristics	100		10
Targets:			
18. Nearby Individual	1	1	
19. Population Within 1 Mile	(b)	0.6	
20. Targets (lines 18 + 19)	(b)		1.6
Nearby Population Threat Score			
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)		400
Soil Exposure Pathway Score:			
22. Pathway Score[d] (S_s), [lines (11+21)/82,500, subject to max of 100]	100		0.67

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60
[d] Do not round to nearest integer

TABLE 6-1 --AIR MIGRATION PATHWAY SCORESHEET

Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Release:			
1. Observed Release	550	0	
2. Potential to Release:			
2a. Gas Potential to Release	500	0	
2b. Particulate Potential to Release	500	0	
2c. Potential to Release (higher of lines 2a and 2b)	500		
3. Likelihood of Release (higher of lines 1 and 2c)	550		0
Waste Characteristics:			
4. Toxicity/Mobility	(a)	0	
5. Hazardous Waste Quantity	(a)	0	
6. Waste Characteristics	100		
Targets:			
7. Nearest Individual	50	0	
8. Population:			
8a. Level I Concentrations	(b)	0	
8b. Level II Concentrations	(b)	0	
8c. Potential Contamination	(c)	0	
8d. Population (lines 8a + 8b + 8c)	(b)		
9. Resources	5	0	
10. Sensitive Environments:			
10a. Actual Contamination	(c)	0	
10b. Potential Contamination	(c)	0	
10c. Sensitive Environments (lines 10a + 10b)	(c)		
11. Targets (lines 7 + 8d + 9 + 10c)	(b)		
Air Migration Pathway Score:			
12. Pathway Score (S_a) [(lines 3 x 6 x 11)/82,500][d]	100		0

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
[d] Do not round to nearest integer